RADIO EXPOSURE TEST REPORT

FCC ID	:	2AHBN-AP45
Equipment	:	802.11ax 6E Wireless Access Point
Brand Name	:	Juniper
Model Name	:	AP45,AP45E
Applicant	:	Juniper Networks, Inc. 1133 Innovation Way Sunnyvale, California 94089 USA
Manufacturer	:	Juniper Networks, Inc. 1133 Innovation Way Sunnyvale, California 94089 USA
Standard	:	47 CFR Part 2.1091

The product was received on Oct. 23 , 2021, and testing was started from Oct. 23 , 2021 and completed on May 05, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
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History of this test report

Report No.	Version	Description	Issued Date
FA182421-02	01	Initial issue of report	Apr. 27, 2022
FA182421-02	02	Revising the test result of 6E (Radio 3)	May 06, 2022
FA182421-02	03	Revising the antenna information	May 12, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:
1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results. 2. The measurement uncertainty please refer to report "Measurement Uncertainty".
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Wendy Pan

1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	**Frequency Range (MHz)**	**Operating Frequency (MHz)**	**Modulation Type**
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5720 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Bluetooth	2400-2483.5	2402-2480	LE: GFSK
6E WLAN	5925-7125	5955-7095	802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)

1.2 Antenna Information

Ant.	Port								Brand Name	Model Name	Ant. Type	Connector	Equip EUT	Gain (dBi)
	WLAN 5GHz (Radio 1)	WLAN 2.4GHz (Radio 2)	WLAN 5GHz (Radio 2)	WLAN 6GHz (Radio 3)	WLAN 2.4GHz (Radio 4)	WLAN 5GHz (Radio 4)	WLAN 6GHz (Radio 4)	BT (Radio 5)						
1	1	4	-	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX	EUT 1	Note1
2	2	3	-	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
3	3	2	-	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
4	4	1	-	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
5	-	-	1	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
6	-	-	2	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
7	-	-	3	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
8	-	-	4	-	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
9	-	-	-	1	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
10	-	-	-	2	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
11	-	-	-	3	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
12	-	-	-	4	-	-	-	-	Juniper	AP45	PIFA	I-PEX		
13	-	-	-	-	1	1	1	-	Juniper	AP45	PIFA	I-PEX		
14	-	-	-	-	2	2	2	-	Juniper	AP45	PIFA	I-PEX		
15	-	-	-	-	-	-	-	1	Juniper	AP45	PIFA	I-PEX	EUT 1, EUT 2	
16	1	4	-	-	-	-	-	-	Acce lTex	ATS-OO-2 456-466-1 0MC-36	OMNI	4-Port connector	EUT 2	
	2	3	-	-	-	-	-	-						
	3	2	-	-	-	-	-	-						
	4	1	-	-	-	-	-	-						
17	1	4	-	-	-	-	-	-	Acce lTex	ATS-OP-2 456-81010 -10MC-36	Panel	4-Port connector		
	2	3	-	-	-	-	-	-						
	3	2	-	-	-	-	-	-						
	4	1	-	-	-	-	-	-						
18	1	4	-	-	-	-	-	-	Acce lTex	ATS-OO-2 456-466-1 0MC-36	OMNI	6-Port connector		
	2	3	-	-	-	-	-	-						
	3	2	-	-	-	-	-	-						
	4	1	-	-	-	-	-	-						
19	1	4	-	-	-	-	-	-	Acce lTex	ATS-OO-2 456-466-1 0MC-36	Panel	6-Port connector		
	2	3	-	-	-	-	-	-						
	3	2	-	-	-	-	-	-						
	4	1	-	-	-	-	-	-						

Note 1:

Ant.	Antenna Gain (dBi)																			
	WLAN 5GHz (Radio 1)				WLAN 2.4GHz (Radio 2)	WLAN 5GHz (Radio 2)		WLAN 6GHz (Radio 3)				WLAN 2.4GHz (Radio 4)	WLAN 5GHz (Radio 4)				WLAN 6GHz (Radio 4)				Bluetooth (Radio 5)
	UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 1	UNII 2A	UNII 5	UNII 6	UNII 7	UNII 8		UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 5	UNII 6	UNII 7	UNII 8	
1	2.89	3.7	3.46	2.39	2.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	2.61	2.55	3.04	3.8	0.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	1.94	2.2	2.82	2.54	2.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	3.27	4.06	2.87	2.17	1.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	3.2	3.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	2.85	3.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	3.37	3.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	3.11	3.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	4.9	5.4	5.4	5.6	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	4.9	5.4	5.4	5.6	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	4.9	5.4	5.4	5.6	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	4.9	5.4	5.4	5.6	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	5.0	5.4	5.4	5.5	5.3	4.7	4.8	4.8	4.1	-
14	-	-	-	-	-	-	-	-	-	-	-	5.0	5.4	5.4	5.5	5.3	4.7	4.8	4.8	4.1	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5
16	6	6	6	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	10	10	10	10	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	6	6	6	6	4	6	6	6	6	6	6	6	6	-
19	-	-	-	-	-	-	-	10	10	10	10	8	10	10	10	10	10	10	10	10	-

Ant.	Directional Gain (dBi)						
	WLAN 5GHz (Radio 1)				WLAN 2.4GHz (Radio 2)	WLAN 5GHz (Radio 2)	
	UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 1	UNII 2A
1	6.44	6.41	7.19	6.67	4.23	-	-
2						-	-
3						-	-
4						-	-
5	-	-	-	-	-	7.7	8.16
6	-	-	-	-	-		
7	-	-	-	-	-		
8	-	-	-	-	-		

Note 2: The EUT has nineteen antennas. The ant.15 is BLE Array (Beam 1~Beam 9 and Omni).

Antenna 16 must be used with antenna 18 and antenna 17 must be used with antenna 19.

Note 3: The above information was declared by manufacturer.

Note 4: **For Radio 2**

For 2.4GHz:

For IEEE 802.11b/g/n/VHT/ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Radio 1

For 5GHz UNII 1~3:

For IEEE 802.11a/n/ac/ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Radio 2

For 5GHz UNII 1~2A:

For IEEE 802.11a/n/ac/ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For Radio 3

For 6E UNII 5~8 (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

For scanning Radio 4

For 2.4GHz, IEEE 802.11b/g/n/VHT/ax mode (1TX/2RX):

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 for EUT 1 and EUT 2 + Ant. 18 generated the worst case, so it was selected to test and record in the report.

The Port 1 for EUT 2 + Ant. 19 generated the worst case, so it was selected to test and record in the report.

For 5GHz UNII 1~3, IEEE 802.11a/n/ac/ax mode (1TX/2RX):

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 for EUT 1 and EUT 2 + Ant. 18 generated the worst case, so it was selected to test and record in the report.

The Port 1 for EUT 2 + Ant. 19 generated the worst case, so it was selected to test and record in the report.

For 6E UNII 5~8, IEEE 802.11ax mode (1TX/2RX):

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

For Radio 5

Bluetooth (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

Note 5: For EUT 1:

Radio 1, 2: Maximum Directional Gain following KDB662911 D03. The antenna report is provided in the operational description for this application.

For EUT 2: Maximum Directional Gain following KDB662911 D01.

For Radio 1 5GHz UNII 1~3 + Antenna 16:

For Radio 2 2.4GHz + Antenna 16:

Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directional Gain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$
BF	$Directional Gain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$	$Directional Gain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$

Ex.

Directional Gain (NSS1) formula : $Directional Gain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$

$NSS1(g1,1) = 10^{G1/20}$; $NSS1(g1,2) = 10^{G2/20}$; $NSS1(g1,2) = 10^{G3/20}$; $NSS1(g1,2) = 10^{G4/20}$

$gj,k = (Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2$

$DG = 10 \log[(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2 / N_{ANT}] => 10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$

Where ;

2.4G G1 = 4 ; G2 = 4 ; G3 = 4 ; G4 = 4 ;

5G G1 = 6 ; G2 = 6 ; G3 = 6 ; G4 = 6 ;

2.4G DG = 10.02 dBi

5 GHz U-NII-1 DG = 12.02 dBi

5 GHz U-NII-2A DG = 12.02 dBi

5 GHz U-NII-2C DG = 12.02 dBi

5 GHz U-NII-3 DG = 12.02 dBi

For Radio 1, 5GHz UNII 1~3 + Antenna 17:

For Radio 2, 2.4GHz + Antenna 17:

Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$
BF	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$	$Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$

Ex.

Directional Gain (NSS1) formula : $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{i=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{i,k}\right\}^2}{N_{ANT}}\right]$

NSS1(g1,1) = $10^{G1/20}$; NSS1(g1,2)= $10^{G2/20}$; NSS1(g1,2)= $10^{G3/20}$; NSS1(g1,2)= $10^{G4/20}$

gj,k =(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2

DG = 10 log[(Nss1(g1,1) + Nss1(g1,2) + Nss1(g1,3) + Nss1(g1,4))^2 / N_{ANT}] => 10 log[($10^{G1/20}$ + $10^{G2/20}$ + $10^{G3/20}$ + $10^{G4/20}$)^2 / N_{ANT}]

Where ;

2.4G G1 = 8 ; G2 = 8 ; G3 = 8 ; G4 = 8 ;

5G G1 = 10 ; G2 = 10 ; G3 = 10 ; G4 = 10 ;

2.4G DG = 14.02 dBi

5 GHz U-NII-1 DG = 16.02 dBi

5 GHz U-NII-2A DG = 16.02 dBi

5 GHz U-NII-2C DG = 16.02 dBi

5 GHz U-NII-3 DG = 16.02 dBi

1.2.1 Table for Multiple Listing

Model Name	EUT	Antenna	FEM of Radio 1 (WLAN 5GHz UNII 2C~3)	FEM of Radio 2 (WLAN 5GHz UNII 1~2A)
AP45	1	Internal	V	V
AP45E	2	External	Unsupported	Unsupported

Note 1: FEM means Front End Module

Note 2: The above information was declared by manufacturer.

1.2.2 Table for Configuration and Radio Function

Configuration	EUT	Radio 1	Radio 2	Radio 3	Radio 4 (Scanning)	Radio 5
1	EUT 1	(WLAN 5GHz UNII 1~3)	(WLAN 2.4GHz)	(WLAN 6GHz)	(WLAN 2.4GHz)	(Bluetooth)
2	EUT 1				(WLAN 5GHz)	
3	EUT 1				(WLAN 6GHz)	
4	EUT 1 (FEM)	(WLAN 5GHz UNII 2C~3)	(WLAN 5GHz UNII 1~2A)		(WLAN 2.4GHz)	
5	EUT 1 (FEM)				(WLAN 5GHz)	
6	EUT 1 (FEM)				(WLAN 6GHz)	
7	EUT 2	(WLAN 5GHz UNII 1~3)	(WLAN 2.4GHz)		(WLAN 2.4GHz)	
8	EUT 2				(WLAN 5GHz)	
9	EUT 2				(WLAN 6GHz)	

Note: The above information was declared by manufacturer.

1.2.3 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FA182421-01

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
For EUT 1: 1. Radio 1: enable UNII 2A, 2C. 2. Radio 2: enable UNII 2A. 3. Radio 4: enable UNII 2A, 2C, 6G. **For EUT 2:** 1. Radio 1: enable UNII 2A, 2C. 2. Radio 3: enable 6G. 3. Radio 4: enable this radio, the function includes 2.4G, 5G UNII 1~3, 6G. 4. Adding two sets antenna for radio 3 and radio 4 (Antenna set 18~19).	MPE

1.3 Accessories

Others
Antenna bracket*1 (Only for ant. 17 and ant. 19 use)
Bracket*1

1.4 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2.1091

KDB 447498 D04 Interim General RF Exposure Guidance v01 The following reference test guidance is not within the scope of accreditation of TAF.

- 47 CFR Part 1.1307
- 47 CFR Part 1.1310

1.5 Testing Location

Testing Location Information		
Test Lab.：Sporton International Inc. Hsinchu Laboratory		
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)	
(TAF: 3787)	TEL: 886-3-656-9065	FAX: 886-3-656-9085
	Test site Designation No. TW3787 with FCC.	
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.	

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-3.0	614	1.63	*(100)	<6
3.0-30	1842/f	4.89/f	*(900/f^2)	<6
30-300	61.4	0.163	1.0	<6
300-1500	-	-	f/300	<6
1500-100,000	-	-	5	<6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|²,|H|² or S (minutes)
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f^2)	<30
30-300	27.5	0.073	0.2	<30
300-1500	-	-	f/1500	<30
1500-100,000	-	-	1.0	<30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at internal: 50 cm and external: 59cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $\frac{30 \times P \times G}{377 \times d^2}$

2.3 MPE Exemption

Option (A): 1.1307(b)(3)(i)(A): Available maximum time-averaged power is < 1 mW

Option (B): 1.1307(b)(3)(i)(B): Device operates between 300 MHz and 6 GHz and the maximum time-averaged power or effective radiated power (ERP), whichever is greater, <= Pth.

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\,cm}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\,cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\,cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\,cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

Option (C): 1.1307(b)(3)(i)(C): ERP is below a threshold calculated based on the distance R between the person and the antenna / radiating structure, where R > λ / 2 π.

Single RF Sources Subject to Routine Environmental Evaluation	
RF Source frequency (MHz)	**Threshold ERP (watts)**
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.
Note: R is in meters, f is in MHz.	

2.4 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

For EUT 1

Radio 1

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
5.2G;D1D	6.44	25.90	32.34	0.50	32.84	1.92309	50	0.06121	1.00000
5.3G;D1D	6.41	23.56	29.97	0.02	29.99	0.99770	50	0.03176	1.00000
5.6G;D1D	7.19	22.71	29.90	0.09	29.99	0.99770	50	0.03176	1.00000
5.8G;D1D	6.67	26.92	33.59	0.50	34.09	2.56448	50	0.08163	1.00000

Radio 2

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;G1D	2.04	29.78	31.82	0.50	32.32	1.70608	50	0.05431	1.00000
5.2G;D1D	7.70	28.03	35.73	0.26	35.99	3.97192	50	0.12643	1.00000
5.3G;D1D	8.16	21.80	29.96	0.03	29.99	0.99770	50	0.03176	1.00000

Radio 3

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
6.2G;D1D	10.92	-	23.31	0.50	23.81	0.24044	50	0.00765	1.00000
6.4G;D1D	11.42	-	23.95	0.50	24.45	0.27861	50	0.00887	1.00000
6.7G;D1D	11.42	-	23.60	0.50	24.10	0.25704	50	0.00818	1.00000
7.0G;D1D	11.62	-	23.29	0.50	23.79	0.23933	50	0.00762	1.00000

Scanning radio 4

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;G1D	5.00	21.28	26.28	0.50	26.78	0.47643	50	0.01516	1.00000
5.2G;D1D	5.40	23.09	28.49	0.50	28.99	0.79250	50	0.02523	1.00000
5.3G;D1D	5.40	21.83	27.23	0.50	27.73	0.59293	50	0.01887	1.00000
5.6G;D1D	5.50	20.18	25.68	0.50	26.18	0.41495	50	0.01321	1.00000
5.8G;D1D	5.30	24.01	29.31	0.50	29.81	0.95719	50	0.03047	1.00000
6.2G;D1D	4.70	19.21	23.91	0.50	24.41	0.27606	50	0.00879	1.00000
6.4G;D1D	4.80	19.10	23.90	0.50	24.40	0.27542	50	0.00877	1.00000
6.7G;D1D	4.80	19.04	23.84	0.50	24.34	0.27164	50	0.00865	1.00000
7.0G;D1D	4.10	19.11	23.21	0.50	23.71	0.23496	50	0.00748	1.00000

Radio 5

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;BT-LE	4.50	7.93	12.43	0.50	12.93	0.01963	50	0.00062	1.00000

For EUT 2

Radio 1 + Ant.16

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
5.2G;D1D	12.02	23.55	35.57	0.42	35.99	3.97192	59	0.09080	1.00000
5.3G;D1D	12.02	17.90	29.92	0.07	29.99	0.99770	59	0.02281	1.00000
5.6G;D1D	12.02	17.88	29.90	0.90	30.80	1.20226	59	0.02748	1.00000
5.8G;D1D	12.02	23.88	35.90	0.09	35.99	3.97192	59	0.09080	1.00000

Radio 1 + Ant.17

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
5.2G;D1D	16.02	19.85	35.87	0.12	35.99	3.97192	59	0.09080	1.00000
5.3G;D1D	16.02	13.94	29.96	0.03	29.99	0.99770	59	0.02281	1.00000
5.6G;D1D	10.00	19.66	29.66	0.33	29.99	0.99770	59	0.02281	1.00000
5.8G;D1D	16.02	19.96	35.98	0.01	35.99	3.97192	59	0.09080	1.00000

Radio 2+ Ant.16

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;D1D	10.02	23.99	34.01	0.50	34.51	2.82488	59	0.06458	1.00000

Radio 2+ Ant.17

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;D1D	14.02	21.95	35.97	0.02	35.99	3.97192	59	0.09080	1.00000

Radio 3 + Ant. 18

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
6.2G;D1D	12.02	-	23.89	0.50	24.39	0.27479	59	0.00628	1.00000
6.4G;D1D	6.00	-	23.83	0.50	24.33	0.27102	59	0.00620	1.00000
6.7G;D1D	12.02	-	23.84	0.50	24.34	0.27164	59	0.00621	1.00000
7.0G;D1D	12.02	-	23.81	0.50	24.31	0.26977	59	0.00617	1.00000

Radio 3 + Ant. 19

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
6.2G;D1D	16.02	-	23.62	0.50	24.12	0.25823	59	0.00590	1.00000
6.4G;D1D	16.02	-	23.28	0.50	23.78	0.23878	59	0.00546	1.00000
6.7G;D1D	16.02	-	23.29	0.50	23.79	0.23933	59	0.00547	1.00000
7.0G;D1D	16.02	-	23.67	0.50	24.17	0.26122	59	0.00597	1.00000

Radio 4 + Ant. 18

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;G1D	4.00	21.72	25.72	0.50	26.22	0.41879	59	0.00957	1.00000
5.2G;D1D	6.00	21.32	27.32	0.50	27.82	0.60534	59	0.01384	1.00000
5.3G;D1D	6.00	19.85	25.85	0.50	26.35	0.43152	59	0.00986	1.00000
5.6G;D1D	6.00	19.23	25.23	0.50	25.73	0.37411	59	0.00855	1.00000
5.8G;D1D	6.00	23.42	29.42	0.50	29.92	0.98175	59	0.02244	1.00000
6.2G;D1D	6.00	17.94	23.94	0.50	24.44	0.27797	59	0.00635	1.00000
6.4G;D1D	6.00	17.89	23.89	0.50	24.39	0.27479	59	0.00628	1.00000
6.7G;D1D	6.00	17.94	23.94	0.50	24.44	0.27797	59	0.00635	1.00000
7.0G;D1D	6.00	17.86	23.86	0.50	24.36	0.27290	59	0.00624	1.00000

Radio 4 + Ant. 19

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;G1D	8.00	20.95	28.95	0.50	29.45	0.88105	59	0.02014	1.00000
5.2G;D1D	10.00	20.58	30.58	0.50	31.08	1.28233	59	0.02931	1.00000
5.3G;D1D	10.00	19.79	29.79	0.20	29.99	0.99770	59	0.02281	1.00000
5.6G;D1D	10.00	18.35	28.35	0.50	28.85	0.76736	59	0.01754	1.00000
5.8G;D1D	10.00	23.03	33.03	0.50	33.53	2.25424	59	0.05153	1.00000
6.2G;D1D	10.00	13.94	23.94	0.50	24.44	0.27797	59	0.00635	1.00000
6.4G;D1D	10.00	13.89	23.89	0.50	24.39	0.27479	59	0.00628	1.00000
6.7G;D1D	10.00	13.92	23.92	0.50	24.42	0.27669	59	0.00633	1.00000
7.0G;D1D	10.00	13.94	23.94	0.50	24.44	0.27797	59	0.00635	1.00000

Radio 5

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm^2)	S Limit (mW/cm^2)
2.4G;BT-LE	4.50	7.93	12.43	0.50	12.93	0.01963	59	0.00045	1.00000

For EUT 1:

Mode1: Radio 1 (5GHz Full band)+Radio 2 (2.4GHz)+Radio 3 (6GHz)+Radio 4 (2.4GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5745	0.0083	0.5	34.09	31.94	1.563	4.800	Complies
2457	0.0194		32.32	30.17	1.040	4.800	Complies
6025	0.0079		24.45	22.30	0.170	4.800	Complies
2437	0.0196		26.78	24.63	0.290	4.800	Complies
2440	0.0196		12.93	10.78	0.012	4.800	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5745	0.5	34.09	31.94	1.563	4.800	0.64	<= 1
2437		32.32	30.17	1.040	4.800		
6505		24.45	22.30	0.170	4.800		
2437		26.78	24.63	0.290	4.800		
2440		12.93	10.78	0.012	4.800		

Mode2: Radio 1 (5GHz Full band)+Radio 2 (2.4GHz)+Radio 3 (6GHz)+Radio 4 (5GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.5	34.09	31.94	1.563	4.800	Complies
2437	0.0196		32.32	30.17	1.040	4.800	Complies
6505	0.0073		24.45	22.30	0.170	4.800	Complies
5785	0.0082		29.81	27.66	0.583	4.800	Complies
2440	0.0196		12.93	10.78	0.012	4.800	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.5	34.09	31.94	1.563	4.800	0.70	<= 1
2437		32.32	30.17	1.040	4.800		
6505		24.45	22.30	0.170	4.800		
5785		29.81	27.66	0.583	4.800		
2440		12.93	10.78	0.012	4.800		

Mode3: Radio 1 (5GHz Full band)+Radio 2 (2.4GHz)+Radio 3 (6GHz)+Radio 4 (6GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.5	34.09	31.94	1.563	4.800	Complies
2437	0.0196		32.32	30.17	1.040	4.800	Complies
6505	0.0073		24.45	22.30	0.170	4.800	Complies
6345	0.0075		24.41	22.26	0.168	4.800	Complies
2440	0.0196		12.93	10.78	0.012	4.800	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.5	34.09	31.94	1.563	4.800	0.62	<= 1
2437		32.32	30.17	1.040	4.800		
6505		24.45	22.30	0.170	4.800		
6345		24.41	22.26	0.168	4.800		
2440		12.93	10.78	0.012	4.800		

Mode4: Radio 1 (5GHz High Band)+Radio 2 (5GHz Low Band)+Radio 3 (6GHz)+Radio 4 (2.4GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.5	34.09	31.94	1.563	6.684	Complies
5200	0.0092		35.99	33.84	2.421	6.684	Complies
6505	0.0073		24.45	22.30	0.170	6.684	Complies
2437	0.0196		26.78	24.63	0.290	6.684	Complies
2440	0.0196		12.93	10.78	0.012	6.684	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.5	34.09	31.94	1.563	4.800	0.93	<= 1
5200		35.99	33.84	2.421	4.800		
6505		24.45	22.30	0.170	4.800		
2437		26.78	24.63	0.290	4.800		
2440		12.93	10.78	0.012	4.800		

Mode5: Radio 1 (5GHz High Band)+Radio 2 (5GHz Low Band)+Radio 3 (6GHz)+Radio 4 (5GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.5	34.09	31.94	1.563	6.684	Complies
5200	0.0092		35.99	33.84	2.421	6.684	Complies
6505	0.0073		24.45	22.30	0.170	6.684	Complies
5785	0.0082		29.81	27.66	0.583	6.684	Complies
2440	0.0196		12.93	10.78	0.012	6.684	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.5	34.09	31.94	1.563	4.800	0.99	<= 1
5200		35.99	33.84	2.421	4.800		
6505		24.45	22.30	0.170	4.800		
5785		29.81	27.66	0.583	4.800		
2440		12.93	10.78	0.012	4.800		

Mode6: Radio 1 (5GHz High Band)+Radio 2 (5GHz Low Band)+Radio 3 (6GHz)+Radio 4 (6GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.5	34.09	31.94	1.563	6.684	Complies
5200	0.0092		35.99	33.84	2.421	6.684	Complies
6505	0.0073		24.45	22.30	0.170	6.684	Complies
6345	0.0075		24.41	22.26	0.168	4.800	Complies
2440	0.0196		12.93	10.78	0.012	6.684	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.5	34.09	31.94	1.563	4.800	0.90	<= 1
5200		35.99	33.84	2.421	4.800		
6505		24.45	22.30	0.170	4.800		
6345		24.41	22.26	0.168	4.800		
2440		12.93	10.78	0.012	4.800		

For EUT 2:

Mode7: Radio 1 (5GHz Full band)+Radio 2 (2.4GHz)+Radio 3 (6GHz)+Radio 4(2.4GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.59	35.99	33.84	2.421	6.684	Complies
2457	0.0194		35.99	33.84	2.421	6.684	Complies
6185	0.0077		23.89	21.74	0.149	6.684	Complies
2437	0.0196		29.45	27.30	0.537	6.684	Complies
2440	0.0196		12.93	10.78	0.012	6.684	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.59	35.99	33.84	2.421	6.684	0.83	<= 1
2457		35.99	33.84	2.421	6.684		
6185		23.89	21.74	0.149	6.684		
2437		29.45	27.30	0.537	6.684		
2440		12.93	10.78	0.012	6.684		

Mode8: Radio 1 (5GHz Full band)+Radio 2 (2.4GHz)+Radio 3 (6GHz)+Radio 4(5GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.59	35.99	33.84	2.421	6.684	Complies
2457	0.0194		35.99	33.84	2.421	6.684	Complies
6185	0.0077		23.89	21.74	0.149	6.684	Complies
5785	0.0082		33.53	31.38	1.374	6.684	Complies
2440	0.0196		12.93	10.78	0.012	6.684	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.59	35.99	33.84	2.421	6.684	0.95	<= 1
2457		35.99	33.84	2.421	6.684		
6185		23.89	21.74	0.149	6.684		
5785		33.53	31.38	1.374	6.684		
2440		12.93	10.78	0.012	6.684		

Mode9: Radio 1 (5GHz Full band)+Radio 2 (2.4GHz)+Radio 3 (6GHz)+Radio 4(6GHz)+Radio 5 (Bluetooth)

MPE Exemption Option C							
Frequency (MHz)	λ/2π (m)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	MPE Exemption
5825	0.0082	0.59	35.99	33.84	2.421	6.684	Complies
2457	0.0194		35.99	33.84	2.421	6.684	Complies
6185	0.0077		23.89	21.74	0.149	6.684	Complies
6185	0.0077		24.44	22.29	0.169	6.684	Complies
2440	0.0196		12.93	10.78	0.012	6.684	Complies

Simultaneous Transmission Analysis Mode:

Simultaneous Transmissions Option C							
Frequency (MHz)	R (m)	Tune-up EIRP (dBm)	Tune-up ERP (dBm)	Tune-up ERP (W)	ERP Threshold (W)	Simultaneous Transmissions	Simultaneous Transmissions Limit
5825	0.59	35.99	33.84	2.421	6.684	0.77	<= 1
2457		35.99	33.84	2.421	6.684		
6185		23.89	21.74	0.149	6.684		
6185		24.44	22.29	0.169	6.684		
2440		12.93	10.78	0.012	6.684		

———THE END———